

# Junqian Zhang

## List of Publications by Year in descending order

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82  
papers

2,342  
citations

218592

26  
h-index

233338

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g-index

82  
all docs

82  
docs citations

82  
times ranked

1516  
citing authors

#	ARTICLE	IF	CITATIONS
1	Analysis and design of a cylindrical magneto-rheological fluid brake. <i>Journal of Materials Processing Technology</i> , 2002, 129, 559-562.	3.1	176
2	Voltage hysteresis of lithium ion batteries caused by mechanical stress. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 4721-4727.	1.3	152
3	Diffusion induced stress in layered Li-ion battery electrode plates. <i>Journal of Power Sources</i> , 2012, 209, 220-227.	4.0	145
4	Analysis of multiple matrix cracking in $[\hat{A}\pm\hat{I}]_m/90_n$ s composite laminates. Part 1: In-plane stiffness properties. <i>Composites</i> , 1992, 23, 291-298.	0.9	144
5	Analysis of multiple matrix cracking in $[\hat{A}\pm\hat{I}]_m/90_n$ s composite laminates. Part 2: Development of transverse ply cracks. <i>Composites</i> , 1992, 23, 299-304.	0.9	85
6	In-situ damage evolution and micro/macro transition for laminated composites. <i>Composites Science and Technology</i> , 1993, 47, 107-118.	3.8	72
7	Role of material properties and mechanical constraint on stress-assisted diffusion in plate electrodes of lithium ion batteries. <i>Journal Physics D: Applied Physics</i> , 2013, 46, 105307.	1.3	69
8	Diffusion Induced Stresses in Cylindrical Lithium-Ion Batteries: Analytical Solutions and Design Insights. <i>Journal of the Electrochemical Society</i> , 2012, 159, A2060-A2068.	1.3	68
9	Effects of concentration-dependent elastic modulus on the diffusion of lithium ions and diffusion induced stress in layered battery electrodes. <i>Journal of Power Sources</i> , 2014, 248, 517-523.	4.0	62
10	Stiffness degradation induced by multilayer intralaminar cracking in composite laminates. <i>Composites Part A: Applied Science and Manufacturing</i> , 1999, 30, 683-706.	3.8	60
11	Delaminations induced by constrained transverse cracking in symmetric composite laminates. <i>International Journal of Solids and Structures</i> , 1999, 36, 813-846.	1.3	59
12	Role of polymeric binders on mechanical behavior and cracking resistance of silicon composite electrodes during electrochemical cycling. <i>Journal of Power Sources</i> , 2018, 387, 9-15.	4.0	55
13	In situ measurement of mechanical property and stress evolution in a composite silicon electrode. <i>Journal of Power Sources</i> , 2017, 366, 80-85.	4.0	51
14	The effect of elementary fibre variability on bamboo fibre strength. <i>Materials &amp; Design</i> , 2015, 75, 136-142.	5.1	50
15	Strain energy release rate associated with local delamination in cracked composite laminates. <i>Composites</i> , 1994, 25, 851-862.	0.9	47
16	Cohesive zone modeling for crack propagation in polycrystalline NiTi alloys using molecular dynamics. <i>Theoretical and Applied Fracture Mechanics</i> , 2020, 105, 102402.	2.1	47
17	Selection of charge methods for lithium ion batteries by considering diffusion induced stress and charge time. <i>Journal of Power Sources</i> , 2016, 320, 104-110.	4.0	44
18	Wave propagation in orthotropic microtubules. <i>Journal of Applied Physics</i> , 2007, 101, 084702.	1.1	43

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19	Modeling of progressive delamination in a thin film driven by diffusion-induced stresses. <i>International Journal of Solids and Structures</i> , 2013, 50, 2495-2507.	1.3	43
20	EFFECT OF MAGNETIC FIELD ON PROPERTIES OF MR FLUIDS. <i>International Journal of Modern Physics B</i> , 2005, 19, 597-601.	1.0	34
21	A new temperature-dependent modulus model of glass/epoxy composite at elevated temperatures. <i>Journal of Composite Materials</i> , 2013, 47, 3303-3310.	1.2	33
22	Stress-limited fast charging methods with time-varying current in lithium-ion batteries. <i>Electrochimica Acta</i> , 2018, 288, 144-152.	2.6	32
23	Review on electrode-level fracture in lithium-ion batteries*. <i>Chinese Physics B</i> , 2020, 29, 026201.	0.7	32
24	On stress-induced voltage hysteresis in lithium ion batteries: impacts of material property, charge rate and particle size. <i>Journal of Materials Science</i> , 2016, 51, 9902-9911.	1.7	29
25	Effects of Hydrostatic Stress and Concentration-Dependent Elastic Modulus on Diffusion-Induced Stresses in Cylindrical Li-Ion Batteries. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2014, 81, .	1.1	28
26	Crocodile skin inspired rigid-supple integrated flexible lithium ion batteries with high energy density and bidirectional deformability. <i>Energy Storage Materials</i> , 2022, 47, 149-157.	9.5	28
27	A three-phase cylindrical shear-lag model for carbon nanotube composites. <i>Acta Mechanica</i> , 2008, 196, 33-54.	1.1	27
28	A coupled electromechanical analysis of a piezoelectric layer bonded to an elastic substrate: Part I, development of governing equations. <i>International Journal of Solids and Structures</i> , 2003, 40, 6781-6797.	1.3	26
29	Effect of fiber volume fraction on the thermal and mechanical behavior of polylactide-based composites incorporating bamboo fibers. <i>Journal of Applied Polymer Science</i> , 2018, 135, 46148.	1.3	26
30	Characterization of microstructure in stitched unidirectional composite laminates. <i>Composites Part A: Applied Science and Manufacturing</i> , 2008, 39, 815-824.	3.8	24
31	Analysis of vibrational behaviors of microtubules embedded within elastic medium by Pasternak model. <i>Biochemical and Biophysical Research Communications</i> , 2012, 424, 89-93.	1.0	24
32	Effects of matrix cracking and hygrothermal stresses on the strain energy release rate for edge delamination in composite laminates. <i>Composites</i> , 1994, 25, 27-35.	0.9	23
33	Combined effect of relative humidity and temperature on dynamic viscoelastic properties and glass transition of poly(vinyl alcohol). <i>Journal of Applied Polymer Science</i> , 2013, 130, 3161-3167.	1.3	23
34	Diffusion of lithium ions and diffusion-induced stresses in a phase separating electrode under galvanostatic and potentiostatic operations: Phase field simulations. <i>Mechanics of Materials</i> , 2015, 91, 363-371.	1.7	23
35	Partial lithiation strategies for suppressing degradation of silicon composite electrodes. <i>Electrochimica Acta</i> , 2019, 295, 778-786.	2.6	23
36	Time to delamination onset and critical size of patterned thin film electrodes of lithium ion batteries. <i>Journal of Power Sources</i> , 2015, 289, 168-183.	4.0	22

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37	Micromechanical modelling of the progressive failure in unidirectional composites reinforced with bamboo fibres. <i>Mechanics of Materials</i> , 2016, 94, 180-192.	1.7	22
38	A modified pulse charging method for lithium-ion batteries by considering stress evolution, charging time and capacity utilization. <i>Frontiers of Structural and Civil Engineering</i> , 2019, 13, 294-302.	1.2	21
39	Real-time measurements of electro-mechanical coupled deformation and mechanical properties of commercial graphite electrodes. <i>Carbon</i> , 2020, 169, 258-263.	5.4	20
40	Analysis of diffusion induced elastoplastic bending of bilayer lithium-ion battery electrodes. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2016, 37, 659-670.	1.9	18
41	Modeling of Damage Evolution and Failure in Fiber-Reinforced Ductile Composites Under Thermomechanical Fatigue Loading. <i>International Journal of Damage Mechanics</i> , 2010, 19, 851-875.	2.4	17
42	Reducing diffusion induced stress in planar electrodes by plastic shakedown and cyclic plasticity of current collector. <i>Journal of Power Sources</i> , 2014, 263, 22-28.	4.0	16
43	Analysis of delamination in thin film electrodes under galvanostatic and potentiostatic operations with Li-ion diffusion from edge. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2013, 29, 348-356.	1.5	15
44	Analysis of wave propagation in orthotropic microtubules embedded within elastic medium by Pasternak model. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2014, 30, 300-305.	1.5	15
45	Understanding the anisotropic strain effects on lithium diffusion in graphite anodes: A first-principles study. <i>Physica B: Condensed Matter</i> , 2018, 539, 66-71.	1.3	15
46	On stress-induced voltage hysteresis in lithium ion batteries: Impacts of surface effects and interparticle compression. <i>Science China Technological Sciences</i> , 2019, 62, 1357-1364.	2.0	15
47	Mechanical contact in composite electrodes of lithium-ion batteries. <i>Journal of Power Sources</i> , 2019, 440, 227115.	4.0	15
48	Modeling of Progressive Failure in Ductile Matrix Composites Including Local Matrix Yielding. <i>Mechanics of Advanced Materials and Structures</i> , 2009, 16, 522-535.	1.5	14
49	Analytical Model on Lithiation-Induced Interfacial Debonding of an Active Layer From a Rigid Substrate. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2016, 83, .	1.1	14
50	Cyclically thermomechanical plasticity analysis for a broken fiber in ductile matrix composites using shear lag model. <i>Composites Science and Technology</i> , 2002, 62, 641-654.	3.8	13
51	A predictive approach to the in-plane mechanical properties of stitched composite laminates. <i>Acta Mechanica Solida Sinica</i> , 2007, 20, 130-140.	1.0	13
52	Application of the laminate plate theory to the analysis of symmetric laminates containing a cracked mid-layer. <i>Computational Materials Science</i> , 1998, 13, 195-210.	1.4	12
53	Two circular inclusions with inhomogeneously imperfect interfaces in plane elasticity. <i>International Journal of Solids and Structures</i> , 2005, 42, 2601-2623.	1.3	12
54	Scaling Analysis of the Tensile Strength of Bamboo Fibers Using Weibull Statistics. <i>Advances in Materials Science and Engineering</i> , 2013, 2013, 1-6.	1.0	12

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55	Prelithiation design for suppressing delamination in lithium-ion battery electrodes. Applied Mathematics and Mechanics (English Edition), 2021, 42, 1703-1716.	1.9	12
56	Buckling of embedded microtubules in elastic medium. Applied Mathematics and Mechanics (English) Tj ETQq0 0 0,rgBT /Overlock 10 Tf	1.9	10
57	Two-way coupled analysis of lithium diffusion and diffusion induced finite elastoplastic bending of bilayer electrodes in lithium-ion batteries. Applied Mathematics and Mechanics (English Edition), 2018, 39, 1567-1586.	1.9	10
58	Effects of stress dependent electrochemical reaction on voltage hysteresis of lithium ion batteries. Applied Mathematics and Mechanics (English Edition), 2018, 39, 1453-1464.	1.9	10
59	A coupled electromechanical analysis of a piezoelectric layer bonded to an elastic substrate: Part II, numerical solution and applications. International Journal of Solids and Structures, 2003, 40, 6799-6812.	1.3	9
60	A steady line heat source in a decagonal quasicrystalline half-space. Mechanics Research Communications, 2005, 32, 420-428.	1.0	9
61	Two-dimensional analysis of progressive delamination in thin film electrodes. Acta Mechanica Sinica/Lixue Xuebao, 2018, 34, 359-370.	1.5	9
62	A non-contact proximity sensor with low frequency electromagnetic field. Sensors and Actuators A: Physical, 2007, 135, 162-168.	2.0	8
63	Structural health monitoring of composite wind blades by fiber bragg grating. , 2007, , .		7
64	Phase field model of polarization evolution in a finite ferroelectric body with free surfaces. Acta Mechanica, 2013, 224, 1309-1313.	1.1	7
65	A sub-layer model for a thick piezoelectric patch bonded on elastic substrate. Acta Mechanica, 2004, 170, 163.	1.1	5
66	Electromechanical Interaction Behaviors of Piezoelectric Sensor and Actuator on Elastic Substrate. Journal of Intelligent Material Systems and Structures, 2005, 16, 589-595.	1.4	5
67	Predictive Approach to Failure of Composite Laminates with Equivalent Constraint Model. Acta Mechanica Solida Sinica, 2010, 23, 240-247.	1.0	5
68	Lithium Diffusion and Stress in a Polycrystalline Film Electrode. Acta Mechanica Solida Sinica, 2018, 31, 290-309.	1.0	5
69	Feigned death induced by partial delithiation in silicon composite electrodes. Journal of Power Sources, 2021, 495, 229763.	4.0	5
70	Prediction of compressive strength of z-pinned unidirectional composite laminates. Journal of Composite Materials, 2012, 46, 383-390.	1.2	4
71	Performance of the fiber Bragg grating sensors at cryogenic temperatures. , 2008, , .		2
72	Fiber Bragg Grating Sensors for Fatigue Monitoring of Composite. Polymers and Polymer Composites, 2013, 21, 553-560.	1.0	2

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73	A Comparative Study of Cohesive Law Shapes in Analytical Modeling of Interfacial Debonding in Lithium-Ion Battery Electrodes. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2019, 86, .	1.1	2
74	Stress-Induced Uphill Diffusion with Interfacial Contact Loss in Solid-State Electrodes. <i>Acta Mechanica Solida Sinica</i> , 2022, 35, 113-128.	1.0	2
75	Design of Ultrathin Current Collectors via Cyclically Plastic Yield for Fabrication of High Capacity Lithium Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2020, 167, 110557.	1.3	2
76	An Energy-Based Statistical Model for Multiple Fractures in Composite Laminates. <i>International Journal for Multiscale Computational Engineering</i> , 2003, 1, 327-348.	0.8	2
77	Theoretical and experimental characteristics on residual stresses of advanced polymer composites. , 2008, , .		1
78	Effect of Cryogenic Cycles on Mechanical Behavior of Glass/Epoxy Composite. <i>Polymers and Polymer Composites</i> , 2014, 22, 135-140.	1.0	1
79	Preface to Special Issue on Nonlinear Behaviors of Materials. <i>Mechanics of Advanced Materials and Structures</i> , 2009, 16, 503-503.	1.5	0
80	Model for temperature-dependence modulus of glass/epoxy composite. <i>Proceedings of SPIE</i> , 2012, , .	0.8	0
81	Influence of physical parameters on residual stresses of polymer composites during the cure process. <i>Proceedings of SPIE</i> , 2012, , .	0.8	0
82	Preface to special issue on nonlinear mechanics of solids. <i>Archive of Applied Mechanics</i> , 2015, 85, 321-321.	1.2	0